Assessing the secular trends in the transmission of HIV in Greece

A Tsantes, G Nikolopoulos, A Masgala, D Paraskeva

**Objective:** To evaluate the current trends in HIV transmission in Greece.

**Methods:** A retrospective study of HIV infected individuals reported to the Hellenic Center for Infectious Diseases Control (HCIDC) was conducted.

**Results:** Since the beginning of the epidemic in Greece and until early 1990s most cases concerned men who have sex with men (MSM). After the mid-1990s the proportion of homosexual males among HIV positive individuals decreased slightly, then was stabilised but they still remain the dominant population among HIV positive people. On the other hand, heterosexual transmission increased steadily and has become a frequent route for the spread of HIV/AIDS in recent years. Individuals originating from or travelling to countries where this mode of transmission prevails were the most frequent cases in this category. A significant proportion of cases classified as “undetermined” were also recorded and were partially attributed to the increased heterosexual transmission among people (especially women) without obvious high risk behaviours.

**Conclusions:** The HIV/AIDS surveillance system must evolve in order to find the new unreported risk information and identify the population groups at higher risk. This will help to implement preventive policies and information campaigns addressed to target populations with special attention paid to immigrants, women, and marginalised communities.

**METHODS**

An analysis concerning the mode of exposure to HIV in all infected individuals reported to the Hellenic Center for Infectious Diseases Control (HCIDC) was conducted. HCIDC has established a national surveillance system for HIV/AIDS. Data related to subject’s age, sex, nationality, geographical area, stage of HIV disease, and mode of exposure to HIV were collected from several facilities including all 18 infectious diseases units, reference centres, and hospitals. Data were recorded and managed by the HIV infection office. The first two characters of the name and patient’s date of birth were used as personal identifiers. However, this use was based upon cooperation with the individuals. Duplicates, missing, or incorrect data were in fact present; however, there is a close cooperation between the HIV office, laboratories, and clinics in order to validate the reported data. HIV infections and AIDS cases were counted only once in a hierarchy that is intended to correspond to the most probable route of transmission, according to the information given by the attendant physicians.

**RESULTS**

The number of HIV infections reported in Greece through the first half year period of 2003 was 6521. Among them, 5241 (80.37%) are men and 1242 (19.04%) are women. The gender was not reported for 38 cases (0.59%). There was a decrease in the number of reported HIV positive cases is observed for first time, which was also confirmed for 2002 (fig 1).

MSM are the most frequent category, with 2944 (45.1%) cases reported. Men and women who have been infected through heterosexual contact make up 1214 (18.6%) cases and 37.1% of them originate from a country with a generalised HIV epidemic. Heterosexual contact is the only transmission category where women predominate (64.74%). A high

**Abbreviations:** HCIDC, Hellenic Center for Infectious Diseases Control; IDU, injecting drug users; MSM, men who have sex with men.
Proportions of routes of transmission suggest a remarkable decline for MSM from 56.7% in 1996 to 32.3% in 1999. However, the percentage was stabilised in the following years and there was a 4% increase in 2002 compared to 2001. HIV diagnoses reported among those infected through heterosexual contact increased markedly during 1985–2000 (a threefold increase) but the percentage remains relatively unchanged in recent years. Secular trend for injecting drug users (IDUs) remains low (fig 1). However, the mode of transmission among immigrants shows that 41.52% were exposed to HIV through heterosexual contact and the percentage of IDUs among immigrants is almost twofold that among Greeks (7.74% vs 3.6%). A steady increase in the proportion of immigrants reported among the heterosexual transmission group is depicted on figure 2. This is steeper for recent years.

### DISCUSSION

Generally, sexual transmission accounts for the vast majority of HIV/AIDS cases. Since the beginning of the epidemic in Greece and until early 1990s most cases concerned MSM. This is consistent with the pattern of HIV transmission in the United States and western Europe during the same period. After mid-1990s the proportion of MSM among HIV positive individuals decreased slightly, then was stabilised, while a small increase has been recorded recently. Similar patterns of HIV transmission through male to male sex were observed in western Europe, with a 22% increase in 2002 compared to 2001. This declining trend among MSM could partially be attributed to the effects of prevention and education programmes applied in Greece. However, the mode of transmission among immigrants is almost twofold that among Greeks (7.74% vs 3.6%). A steady increase in the proportion of immigrants reported among the heterosexual transmission group is depicted on figure 2. This is steeper for recent years.

### Table 1 Cumulative HIV positive cases by transmission group and sex reported in Greece through first half year period of 2003

<table>
<thead>
<tr>
<th>Transmission group</th>
<th>Males</th>
<th>Females</th>
<th>Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No (%)</td>
<td>No (%)</td>
<td>No (%)</td>
</tr>
<tr>
<td>Men who have sex with men (MSM)</td>
<td>2944</td>
<td>(56.2)</td>
<td>2944</td>
</tr>
<tr>
<td>Injecting drug users (IDUs)</td>
<td>184</td>
<td>(3.5)</td>
<td>237</td>
</tr>
<tr>
<td>Haemophiliacs/coagulation disorder</td>
<td>218</td>
<td>(4.2)</td>
<td>223</td>
</tr>
<tr>
<td>Transfusion recipients</td>
<td>49</td>
<td>(0.9)</td>
<td>85</td>
</tr>
<tr>
<td>Heterosexuals</td>
<td>453</td>
<td>(8.6)</td>
<td>1,214</td>
</tr>
<tr>
<td>Mother to child</td>
<td>23</td>
<td>(0.4)</td>
<td>44</td>
</tr>
<tr>
<td>Undetermined†</td>
<td>1370</td>
<td>(26.1)</td>
<td>1,765</td>
</tr>
<tr>
<td>Total</td>
<td>5241</td>
<td>(100.0)</td>
<td>6521</td>
</tr>
</tbody>
</table>

*Includes cases of unknown sex.
†The mode of exposure to HIV was not reported.
immigrants, marginalised communities, and sex workers in order to stem the spread of HIV infection.

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